



ICT

preparation notebook

first term 2021



# ICT

## General and specific objectives for fourth grade



### General objectives of the ICT course:

- Employing information and communication technology in scientific and life fields.
- Facing the challenges imposed on it by the information and communication revolution, as well as globalization.
- Providing students with more knowledge and importance of information and communication technology.
- Providing the skills of scientific, critical and creative thinking.
- Use of technology used by people of determination in their lives
- Proficiency in data handling and analysis skills.
- Acquiring communication skills with others and making reports and researches.
- Employing information and communication technology to produce useful projects.
- Acquiring teamwork skills and distributing roles to complete tasks.
- Enhancing the concepts of self-learning and continuous learning and working with them.
- Employing information and communication technology to solve life problems.
- Acquiring the correct ethics and behaviors in dealing with the digital security plan.

### Specific objectives of the ICT course

**At the end of this chapter the student is expected to be able to:**

- Knows the use of information technology in scientific fields.
- Discusses the history of technology and its development in our daily lives.
- Develops writing skills on the computer.
- Explains the basic components of the computer.
- differentiates between input and output and processing units.
- Describes the different types of computers.
- differentiate between hardware and software.
- Explains the concept of assistive technology.
- Discusses the role of technology in improving the lives of people of determination.
- He discusses the problems he faces at the level of information technology and possible solutions to them.
- Identifies the means used in analyzing, organizing and displaying data.
- Discusses the different electronic communication methods and how to use them.
- Explains how technological solutions are compatible with the lives of others.
- Describes the risks of the Internet and how to maintain the privacy and security of information while using the Internet.
- Explains the ethics of using ICT tools.
- Identifies the characteristics of reliable information sources on the Internet.

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# Lesson 1

## ( Active Explorer)

### Objectives

**At the end of the lesson, he will be able to:**

- Learn some technology tools used in the exploration of the Earth.
- Suggests scientific terms related to technology.
- Describes how technology can be used to search for underground objects.

### Accompanying activities

Take the students to the computer room and divide them into small groups and discuss with them the role of technology in the lives of archaeologists and the way they work. Citing a presentation (video) to the scientist Albert Lynn and his way of working and then ask them the introductory question.

### Lesson content

#### The importance of technological tools for archaeologists:

- It allows scientists to explore in simple and easy ways that save effort and cost
- Narrowing the scope of the search in excavations for antiquities.

#### The most important tools that scientists use:

- Pictures through the satellite and the drone.
- The Global Positioning System (GPS).
- magnetometer and ground penetrating radar.

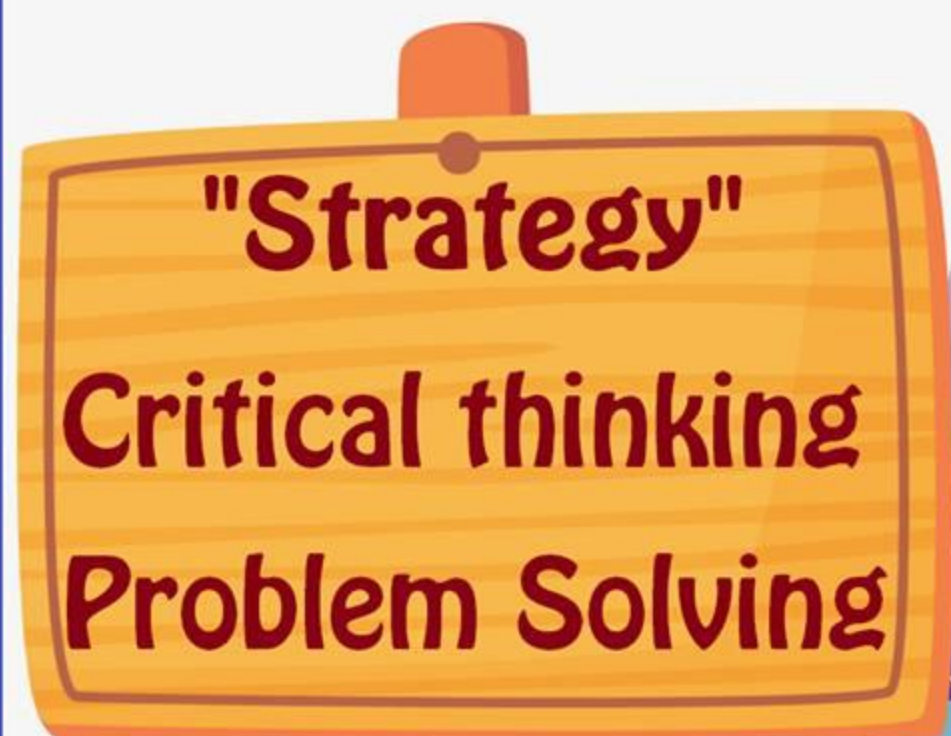


### Introductory question

What are the different types of technology they use to explore the Earth?

### Evaluation

What do archaeologists do when they do not know where to dig?



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# Lesson 2

## Technology and its historical development

### Objectives

At the end of the lesson, he will be able to:

- Discusses the history of information and communication technology.
- Discusses how technology is used in our daily lives.
- Develops his skill in writing on the computer.

### Accompanying activities

Take the students to the computer room and divided them into small groups and discussed technology and its development in ancient history over different ages, citing my presentation (video) that illustrates ways of communication, ancient and modern, from the Pharaohs time to the modern era.

### Lesson content

#### Stages of technology development over time:

- The era before the mechanical revolution. (photos and drawings)
- The era of the mechanical revolution. (typewriter and Pascaline)
- The era of the electro-mechanical revolution. (telephone and recording device)
- The era of the electronic revolution. (Smart phone - satellite - email)



### Introductory question

What methods do you use to log information?

### Evaluation

Solving the student book questions on pg. 15, 16, 17



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## Lesson 3

# Components of a Computer

### Objectives

At the end of the lesson , he will be able to :

- Explains the basic components that make up the computer.
- defines the concept of inputs, outputs and data.
- Describes the different types of computers.

### Accompanying activities

Take the students to the computer room and divide them into small groups and discuss with them the components needed to use the computer in a particular task such as making a photo album and entering its data.

### Lesson content

#### computer components

##### 1 - Input devices

- Keyboard - Mouse
- Microphone - Camera
- Scanner

##### 2 - output devices

- Display Screen - Terminal Braille System
- Megaphone - Speech Synthesizer
- printer



### introductory question

How can you use technology in your daily life?

### Evaluation

In your opinion, what are the components of a computer that may benefit people of determination?

**"Strategy"**  
critical thinking  
problem solving

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# lesson 4

## Software and operating systems.

### Objectives

At the end of the lesson , he will be able to :

- Explains the main operations of operating systems.
- Explains the difference between hardware and software.

### Accompanying activities

Take the students to the computer room and divide them into small groups and show them a video of how the operating system works and how it controls hardware and software. Then we discuss the schematic diagram in the book of how the data is processed and ask them to make drawings similar to the stages of another program.

### Lesson content

#### Software:

The set of commands and instructions that instruct a computer how to do its job. Software is responsible for operating a computer, controlling it, and extending the capabilities of its processing operations.

#### Software types:

- System software: These are programs that are designed to operate and control a computer
- Application software: It represents a group of software designed to help the user complete tasks on the computer; Create documents, develop databases, conduct online research, and design graphics

#### Hardware:

Hardware is defined as the tangible units through which data can be entered and extracted.



### Introductory question

How does your computer communicate with you and carry out your commands?

### Evaluation

Solving the student book questions on p. 24 and 25.

"Strategy"  
conceptual maps  
problem solving

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# Lesson 5

## Supporting People of Determination.

### Objectives

- Explains the definition of assistive technology.
- Discusses how technology improves the lives of people of determination.
- Suggests a technological means that can contribute to improving the lives of others.

### Accompanying activities

Take the students to the computer room and divide them into small groups and show them a video of the scientist Albert Lynn who works even though his leg is amputated, which did not make him stand in the way of his success. Ask them to do a collective brainstorming to reach ideas to help people of determination through technology they have previously seen or wished for in the future Describe it to their colleagues.

### Lesson content

**Assistive technology for people of determination:** which is defined as “any material, piece, or system product, or something modified or made according to demand with the aim of “increasing the scientific or functional efficiency of people of determination.”

#### Examples of assistive technology:

- Screen magnification software (for people with low vision)
- Hearing aids (for people with hearing problems)
- Alternative communication software (facilitating oral and linguistic communication)
- Sports equipment (prosthetic devices and Paralympic athletes' devices)



### Introductory question

How technology can help people of determination?

### Evaluation

Solving the student book questions on p. 28 and 29

**"Strategy"**  
Brainstorming  
Problem Solving

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# lesson 6

## ICT common problems and solutions

### Objectives

- He discusses the problems he encountered at the level of information and communication technology.
- Discusses the issues he faces while using those rivers in using these patterns.
- Proposes solutions to address the business problems of the information and communication company.

### Accompanying activities

Take the students to the computer room and divide them into small groups and ask them the introductory question and then we start a brainstorming process among the students to exchange experiences and discuss about the problems they face at the level of information technology and the solutions to each problem.

### Lesson content

#### Some potential problems and solutions:

- Not being able to open an application: (reboot - update the application - reinstall)

Mouse pointer does not work: (make sure the cable is connected - reboot - replace the mouse)

- You are unable to find a file: (search in documents or through the search box in the start menu)

- The screen stops displaying data: (pressing the alt + ctrl + del buttons and end the task - restart)

- Keyboard has stopped: (make sure the cable is connected - restart - replace the keyboard)



### Introductory question

What ICT related problems have you faced in your life?

### Evaluation

solving book questions p. 32 and 33

**"Strategy"**  
Critical Thinking  
Problem Solving

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# Lesson 7

## Data collection, analysis and expression in graphs

### Objectives

- Identifies digital means that can be used to organize information.
- Provides information about a student issue by collecting, analyzing and graphing data
- He discusses with his colleagues common issues related to students.

### Accompanying activities

Take the students to the computer room and divide them into small groups and ask them the introductory question and then start the discussion among the students in order to conclude some methods that we can adopt to collect data, analyze it and express it in graphs.

### Lesson content

#### The most common sources of data collection:

Books and Articles - Polls

Records and Reports - Experiences

#### graph:

A column graph is the most common for representing data, as it clearly shows and compares different categories of information.  
By drawing or using Excel



### Introductory question

How can digital media help you organize information?

#### Evaluation

Solving the book's questions on p. 36 and 37

#### "Strategy"

Cooperative Education  
Critical Thinking

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# Lesson 8

## preparing reports for the results of the research:

### Objectives

- Discusses different ways of communicating through electronic means.
- Explains how to use various technological means to communicate with others.
- Communicates by electronic means with his colleagues and teachers.

### Accompanying activities

Take the students to the computer room and divide them into small groups and ask them the introductory question and then we start the discussion among the students explaining what the scientists have reached of information in different and multiple ways and showing the most common way to share data is by e-mail by reading the graph in the book.

### Lesson content

## The most common ways to share data:

- E-mail
- Video chats
- Text messages



### Introductory question

What is the importance of communicating electronically with others?

### Evaluation

solving student book questions p.40 and 41

**"Strategy"**  
critical thinking  
collaborative learning